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A Physical Therapy Mobility Checkup for Older Adults: Feasibility and Participant Preferences From a Discrete Choice Experiment

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| Purpose | Physical performance measures, like walking speed, identify and predict preclinical mobility disability but are rarely used in routine medical care. A preventive model of care called Mobility Checkup is being designed to reduce mobility disability in older adults. This study had two purposes: 1) determine feasibility and outcomes of the Mobility Checkup, and 2) identify preferences of older adults regarding this model of care using a discrete choice experiment. |
| Methods | Adults over 55 years of age were recruited from the community. In the study's first phase, participants completed a Mobility Checkup, with feasibility evaluated using 6 criteria. In the second phase, a new sample of older adults (>55 years old) were educated about the Mobility Checkup and then completed a discrete choice experiment to determine their preferences regarding 4 attributes of this care model: cost, visit duration, desired education topic, and style of educational graphic. |
| Results | Each study phase was completed by 31 participants. Of the 6 feasibility criteria, 5 were met. Visit duration exceeded the 60-minute criteria for 13 of the 31 participants. Still, 91% of participants were very satisfied with the Mobility Checkup. Ability to transition positions identified preclinical mobility disability most frequently. A 30-minute visit with no out-of-pocket cost was deemed preferred. |
| Conclusions | Older adults value knowing what physical performance measurements predict about their general health. Transitions should be evaluated as part of a Mobility Checkup for older adults. Clearly conveyed cost of health care service is important to older adult consumers. (<i>J Patient Cent Res Rev</i> . 2022;9:24-34.) |
| Keywords | mobility disability; older adults; preclinical; preventive care; healthy aging; routine care; patient preferences |

Do you know your walking speed? Do you know what it indicates about your health? Most people do not. Unlike blood pressure or body mass index, physical performance measures, such as walking speed, are rarely used as health indicators in routine medical care.¹ This is a missed opportunity, particularly for older adults, who may experience subtle, gradual decline in physical performance that leads to mobility disability.^{2,3} Development of a “Mobility Checkup,” a preventive model of physical therapy care that prioritizes educating

older adults on the value of physical performance as an indicator of health, could result in a cost-effective tool to prevent physical decline with aging.

Healthy aging has been defined as “the process of developing and maintaining the functional ability that enables well-being in older age” and includes *mobility*, ie, moving with ease in your home, community, and beyond.⁴ Early, subtle changes in mobility are referred to as preclinical mobility disability. Preclinical mobility disability is known to predict mobility disability.^{5,6} Mobility disability has been defined as the inability to walk 400 meters and to climb a flight of stairs without assistance.⁷ Chronic conditions associated with an increased prevalence of mobility disability in older adults include osteoporosis, arthritis, sarcopenia, cardiac abnormalities, high blood pressure,⁸⁻¹⁰ acquired

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neurologic conditions, and pain.¹¹ Mobility disability is associated with an increased risk for falls, reduced access to medical services, poor mental well-being, worse health outcomes,¹² and poorer quality of life.¹³ Mobility disability is also associated with a reduced likelihood of aging in place,¹⁴ which is the preference of most older adults in the United States.¹⁵

The position of the American Physical Therapy Association is that all people should have an annual physical therapy visit to “optimize movement and promote health, wellness, and fitness; and slow progression of impairments of body functions and structures, activity limitations, and participation restrictions.”¹⁶ Physical therapy leaders agree this specialty should further position itself as direct access providers and develop prevention programs that are patient-centered.¹⁷⁻²⁰ While these important recommendations support preventive care for maintaining mobility, a model of care specific to prevention of mobility disability in older adults is not common practice.^{19,21} Evidence suggests screening can predict mobility disability in older adults²²⁻²⁴ and that activity-based interventions prevent it.²⁵⁻³⁰

The Mobility Checkup developed and studied herein has two parts: measurement and education. It was designed to identify preclinical or mobility disability in older adults and provide education in a way that guides them to choose activity to optimize mobility and health. Determining the feasibility of this specific Mobility Checkup and the preferences of older adults for this model of care are critical prerequisites to implementation and evaluating its effectiveness in future studies.

Discrete choice experiments (DCEs) are a survey-based approach to determine which attributes of a good or service consumers value. DCEs have been used in health economics research since 1990 to determine health care processes valued by patients.³¹ This method can elicit the preferences of consumers,³¹⁻³³ including the expected uptake of novel health care products.³³ The rationale for using a DCE in our study was its quantitative nature and ability to elicit preferences implicitly, which is thought to reduce bias compared to traditional survey approaches.³³ DCEs are known to be valid¹⁷ and reliable over time for both input (consistency of responses to questions) and output (consistency of preference results).^{34,35} Finally, DCEs enable examining multiple options (levels of attributes) within plausible health care scenarios. The specific DCE attributes studied for this Mobility Checkup were: preferred out-of-pocket cost, visit duration, desired education on specific mobility constructs (risk of falling, walking speed and endurance, ability to get up and down), and the preferred educational graphic.

This study had two purposes. In the first phase, our purpose was to determine the feasibility and outcomes of the Mobility Checkup. In the second phase, our purpose was to identify preferences of older adults regarding this model of care using a DCE.

METHODS

Description of the Mobility Checkup

The Mobility Checkup was designed to establish baseline physical performance and identify preclinical and mobility disability in older adults. To ensure the broadest possible definition of impairment was captured, the following 4 categories of mobility were assessed using performance measures: transitions (ie, ability to transfer from sitting to standing and up from the floor), walking speed, walking endurance, and balance (Table 1). All measures used for the Mobility Checkup have been thoroughly described elsewhere^{22,36-56} and were selected based on psychometric properties, recommendations for use with older adults, and the availability of existing normative data. Ease of administration, time for administration, the ability to measure change across time,²² and predictability of future performance⁵⁷ also were considered. The Timed Up From Floor (TUFF) test is the least established measure used in the Mobility Checkup and was chosen because it is known to be a physically challenging test²³ that may identify functional limitations that other measures do not.²⁴

Individualized education on physical performance formed the second part of the Mobility Checkup (Table 1 and Online Supplemental Figure S1). In a one-on-one discussion, each participant's physical performance measure values were compared to age-referenced norms for each mobility measure. Education on performance compared to age-referenced norms is motivating and provides tangible rationale for changes to activity or exercise programs.¹⁸

Participants

For the study's feasibility phase, potential participants were recruited through an assisted living facility and the academic institution in which the research was conducted. They met the criteria of being ≥ 55 years of age, able to walk independently with or without an assistive device, able to follow 3-step commands, and able to understand the study tasks and purpose. Potential participants were excluded if, based on self-report, they were experiencing an acute illness, had a traumatic injury such as a fracture that affected their mobility, or a cardiac procedure or myocardial infarction in the last 6 months.

In the DCE phase, to achieve a more heterogeneous sample, potential participants were recruited from libraries, 2 residential facilities, and the academic institution in which the research was conducted.

Table 1. The Mobility Checkup

| Measurement | Task/Test Used to Obtain |
|-------------------------------|--|
| Biometrics | Resting heart rate, blood pressure, weight, height |
| Mobility categories | |
| Transitions | Five Times Sit to Stand ³⁶⁻⁴⁰ and Timed Up From Floor ⁴¹⁻⁴⁵ tests |
| Walking speed | 10-meter walk test (normal and fast) ^{22,46-48} |
| Endurance | 6-minute walk test ^{22,49,50} |
| Balance | Functional Gait Assessment ^{51,52} and Activities-specific Balance Confidence scale ⁵³⁻⁵⁶ |
| Education | Description |
| Value of physical performance | Participants were educated about the value of physical performance measures as indicators of health status. |
| Comparison to norms | Participant scores were compared to age-referenced norms using a graphic. See Online Supplemental Figure S1 for example. It was discussed with participants how past performance would also be referenced in future Mobility Checkups. Participants were provided a pocket card that indicated their scores and the normative values for their age. See Online Supplemental Figure S1 for example. |
| Recommendations | Participants were provided recommendations on how they could use activity to maintain or improve their mobility. If there was a concern regarding safety during mobility, participants were recommended to have a full physical therapy evaluation. |

Criteria included being ≥ 55 years of age, able to walk independently with or without an assistive device, and able to understand the study tasks and purpose.

Participants provided written informed consent prior to participating in either institutional review board-approved phase of this study (feasibility protocol: #2018-12-050; DCE protocol: #1532773-1).

Mobility Checkup Feasibility Testing

The study was conducted at 2 sites: the community room in the assisted living facility and the research laboratory of the academic physical therapy program. Participants completed a one-time visit in which demographic information was collected and the Mobility Checkup was conducted by student physical therapists who were trained in study procedures and directly supervised by a licensed physical therapist. For this study, the operational definition of preclinical mobility disability was a score below the 50th percentile of the age-referenced norm on any measure. Education was provided to each participant on how they compared to norms for each measure and how they could use activity to maintain or improve their physical performance. Because the TUFF lacks age-referenced norms for males, the female norms were applied for all participants. The Short Assessment for Patient Satisfaction (SAPS)⁵⁸ was completed by each participant following the Mobility Checkup. Each of the 7 SAPS items was scored from 0 to 4. A total score of 28

represents high satisfaction. Satisfaction was reported as a percentage of the total score.⁵⁹

Six criteria and thresholds were established a priori to determine the feasibility of the Mobility Checkup. Criteria included identification of preclinical or mobility disability, participant cancellation rate, Mobility Checkup duration, participant satisfaction, participant rating of the usefulness of education, and adverse events occurring during the checkup. Adverse events were defined as an injury resulting in prolonged hospitalization, disability or death, caused by the checkup.⁶⁰ The primary outcome measures were identification of preclinical mobility disability in $\geq 25\%$ of the study sample and participation rate. The confidence interval approach was used to determine the sample size based on participation rate. With 30 participants, we could estimate a 50% participation rate within a 95% CI of $\pm 9\%$.⁶¹

Development of Discrete Choice Experiment Attributes and Attribute Levels

Four attributes of the Mobility Checkup were evaluated in the DCE: preferred out-of-pocket cost, visit duration, desired education on specific mobility constructs (risk of falling, walking speed and endurance, ability to get up and down), and the preferred educational graphic. Levels of each attribute in the DCE were guided by the literature. More specifically, the cost attribute was determined based on realistic out-of-pocket expenditure estimates.⁶²⁻⁶⁴

The visit duration attribute levels were determined based on physical therapy visits typically lasting 30 to 60 minutes.⁶⁵ The levels of educational content (ability to get up and down, walking speed and endurance, and fall risk) were chosen to identify the participant's greatest area of concern within mobility. Because visual display of test outcomes can increase their meaningfulness,⁶⁶ we evaluated two types of educational graphics. Each style of graphic was presented with equal representation of improved and declined hypothetical example outcomes. An example choice set from the DCE is shown in Online Supplemental Figure S2.

To allow the main effects of each attribute in the DCE model to be examined, a simple fractional factorial design was used. A total of 24 possible profile alternatives were examined across 2 surveys, thus, the participants each completed 1 survey with 12 choice sets. The relatively small number of choice sets per survey was chosen to reduce the likelihood of respondent fatigue.³² As 20 respondents per survey is recommended,³³ our original sample size estimate was 40 participants. Relative independence of the attributes studied eliminated the problem of implausible attribute combinations. The design was considered to have "level balance" because the total number of alternatives, 24, is divisible by our attributes with 2, 3, or 4 levels.³² A design efficiency of 97% was achieved. The choice design was generated in JMP® 13.2.0 software (SAS Institute Inc.).

DCE Implementation

In a single study visit, participants provided demographic information, height and weight, and completed the Montreal Cognitive Assessment (MoCA). Participants then completed questions regarding their participation in preventive health care. Because these participants were not familiar with the concept of a Mobility Checkup, they were introduced to its content and purpose by viewing a 2-minute educational video (available at <https://www.youtube.com/watch?v=gq9AQ16BUKU>). Finally, the following instructions for the DCE were read to the participant: "You'll be presented with 2 scenarios, options A and B. After you have read and considered them both, please select the scenario that is most desirable to you." Participants completed the DCE and were not allowed to opt-out for any choice set.

Statistical Analysis

For the feasibility phase, descriptive statistics were used to characterize participants and outcomes. DCE responses were analyzed using conjoint choice modeling to estimate the main effect for each attribute for the full sample of participants.³² Choice modeling uses conditional logistic regression to estimate the probability that a configuration

is preferred based on responses to combinations of levels of attributes. Unlike simple logistic regression, choice modeling uses a linear model to model choices based on response attributes to estimate the value or "utility" each participant attaches to the different levels of the attributes studied. The false discovery rate (FDR) P-value for each model effect was calculated using the Benjamini-Hochberg technique,⁶⁷ with alpha set at $P < 0.05$. Utility is the numerical representation of the level of desirability participants expressed for each level of each attribute and overall. Utility is arbitrarily scaled and zero-centered, where higher levels represent more desirability and lower (or negative) values represent less desirability. Utility balance improves efficiency in choice designs.⁶⁸

A likelihood ratio test based on chi-squared P-value was used to determine if the observed frequencies of each level differ from theoretically expected or chance frequencies. Statistical analyses were completed with JMP 13.2.0.

RESULTS

Participants were recruited and enrolled between January 2019 and March 2019 for the feasibility phase and between December 2019 and March 16, 2020, for the DCE, at which time data collection was discontinued secondary to the COVID-19 pandemic. Coincidentally, 31 participants completed each phase of the study. Participant demographics are shown in Table 2. Participant flow through each study phase is illustrated in Figure 1.

Feasibility Phase Results

Five of the 6 feasibility criteria for the Mobility Checkup were met (Table 3). Of 31 participants, 10 scored at or above the 50th percentile for their age on all measures. These participants were provided education about normal performance, and it was recommended they continue their exercise and activity routine. Conversely, 21 participants were identified as having preclinical or mobility disability because they scored below the 50th percentile for their age on 1 or more measures. These participants were provided education about normal performance and activities to improve performance. For 5 of the 21, a physical therapy evaluation was recommended because of concerns about their safety recognized during the Mobility Checkup.

The relationship among the mobility categories in which participants were below normal, summarized by a Venn diagram (Figure 2), had two notable features. When a participant was below the norm on one measure in a category, it was likely they were below the norm on a measure in another category, indicated by overlap in the diagram. The greatest number of participants (16 of 21) had an impaired ability to transition (based on their Five Times Sit to Stand Test performance, performance on TUFF, or both).

Table 2. Study Participant Demographics

| Demographic | Feasibility (n=31) | DCE (n=31) |
|----------------------------------|-----------------------|---------------|
| Age in years, mean (SD) | 71.6 (10.0) | 73.3 (12.0) |
| Sex | | |
| Female | 74% | 84% |
| Body mass index, mean (SD) | 27.7 (3.9) | 29.4 (6.5) |
| Race/Ethnicity | NA | |
| White/Caucasian | | 100% |
| Native American | | 6% |
| Other | | 0% |
| General health | NA | |
| Excellent | | 13% |
| Very good | | 42% |
| Good | | 22.5% |
| Fair | | 22.5% |
| Cognitive test, mean (range)* | 28 (18–30) | 24 (9–30) |
| Education | | |
| Less than high school graduate | 0% | 10% |
| High school graduate | 6% | 25% |
| 2-year degree or some college | 13% | 23% |
| 4-year college graduate | 68% | 19% |
| More than a 4-year degree | 13% | 23% |
| Residence type | | |
| House | 71% | 35.5% |
| Apartment | 16% | 35.5% |
| Assisted living | 13% | 29% |
| Household income | NA | |
| <\$30,000 | | 29% |
| >\$30,000 | | 52% |
| Preferred not to answer | | 19% |
| Employment | NA | |
| Full-time | | 32% |
| Part-time | | 7% |
| Retired | | 58% |
| Other | | 3% |
| Assistive device used most often | | |
| None | 77% | 61% |
| Cane or walking stick | 10% | 13% |
| Walker (any type) | 13% | 26% |
| Insurance | | |
| Medicare and/or Medicaid | NA | 16% |
| Medicare + supplemental | | 42% |
| Private insurance | | 39% |
| Other | | 3% |

*Cognitive tests implemented were Mini Mental Status Examination (verbally administered) for the feasibility phase and Montreal Cognitive Assessment for the DCE phase.

DCE, discrete choice experiment; NA, not assessed; SD, standard deviation.

DCE Results

Overall, 94% of study participants reported using preventive health care and 97% indicated that they would participate in a Mobility Checkup if one were available to them. Participant opinions varied on how frequently they would prefer to have a Mobility Checkup: 26% indicated they would prefer it occur biannually, 52% preferred annually, and 22% thought every 2 years would be best. The majority (68%) indicated they would prefer their results communicated on a paper handout, while the remaining 32% preferred an electronic communication.

All 31 participants who enrolled in the study completed the DCE survey; mean time to complete was 40 minutes. A total of 372 observations (31 participants × 12 choice sets) were included in the DCE analysis. All attributes were statistically significant in their contribution to the model. Mean utility levels, 95% CIs, P-values, and attribute importance are shown in Table 4. Participants' strong preference was to have no out-of-pocket cost for the Mobility Checkup, as compared to \$25 or \$129 co-pays. For each other attribute, the preferred choice was chosen statistically more frequently than chance, however, the difference between levels of the attributes was less than for cost and they were less important to the model.

DISCUSSION

This 2-phase study illustrates the feasibility of and older adults' preferences for the Mobility Checkup, a novel preventive model of physical therapy care. The Mobility Checkup builds on the American Physical Therapy Association suggestion of an annual physical therapy evaluation; however, it is more specific in that it is a standardized assessment of mobility of older adults. Herein, how the findings from both study phases might inform the ongoing development of the Mobility Checkup will be discussed.

The Mobility Checkup was found feasible, safe to administer, and of high interest to study participants, who reported high satisfaction and rated the education they received as very useful. The identification of 68% of participants as having preclinical mobility disability exceeded our established feasibility threshold of 25%. One factor likely impacting this finding was that this study operationalized the 50th percentile of the age-referenced norms for each measure as a cutoff for preclinical mobility disability. Measures of the ability to transition identified the greatest number of participants below the 50th percentile for their age, suggesting this is an important category to include in the Mobility Checkup. To contribute best to the Mobility Checkup, scoring for the TUFF⁴³ should be expanded to include those who require assistance and normative data for males should be

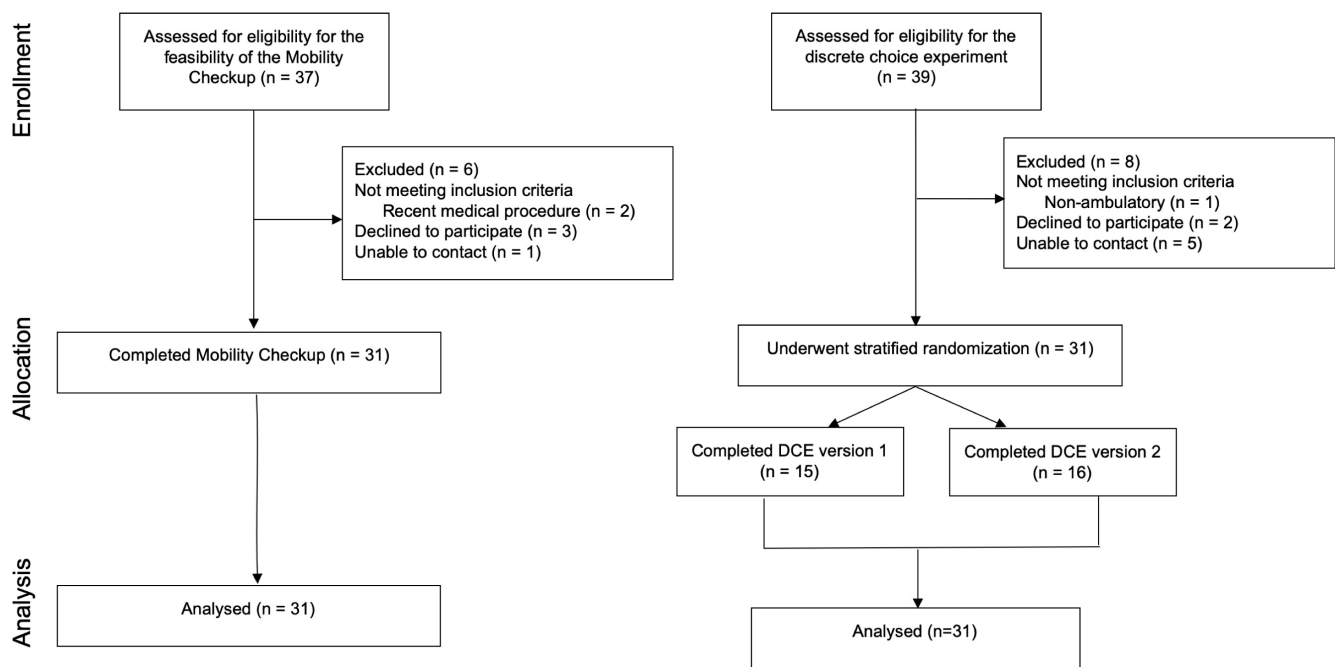


Figure 1. The enrollment, allocation of participants, and number of participants analyzed is shown in CONSORT diagrams for the Mobility Checkup and discrete choice experiment study phases.

Table 3. Mobility Checkup Feasibility Outcomes

| Criteria | Threshold for feasibility | Outcome | Threshold met/not met |
|---|---------------------------|---------------------------------------|-----------------------|
| Identification of preclinical mobility disability | ≥25% | 68% | Met |
| No show/cancellation rate | ≤10% | 9.1% | Met |
| Checkup duration | 100% at ≤60 minutes | 18 visits of ≤60; 13 visits of >60 | Not met |
| Satisfaction per SAPS, ⁴⁵ mean (range) | ≥90% very satisfied | 91% (71–100) | Met |
| Usefulness of the education,* mean (range) | ≥80% satisfied | 98% (80–100) | Met |
| Adverse events | None | None | Met |

*Item 2 on SAPS.

SAPS, Short Assessment of Patient Satisfaction.

developed. Future studies should use cutoffs established by each individual measure. Regardless of cutoff, the data suggest measures used in the Mobility Checkup will identify individuals who would benefit from preventive care to maintain or improve mobility.

Nearly 42% of the Mobility Checkups conducted took longer than 60 minutes. There was overlap in the identification of preclinical mobility disability between measures and categories (Figure 2). The results of the DCE indicated participants prefer a shorter visit

duration. Taken together, these data suggest it may be possible to reduce the number of tests and therefore the duration of the Mobility Checkup while retaining the ability to identify mobility disability in this population. Modifications to reduce Mobility Checkup duration may include eliminating the 10-meter walk test's fast speed, the Activities-specific Balance Confidence (ABC) scale, and/or the Functional Gait Assessment (FGA). Disadvantages of the ABC include subjectivity, lack of identification of the type of balance problem, and lack of correlation to falls.⁶⁹ The 10-meter walk test's self-selected speed is the

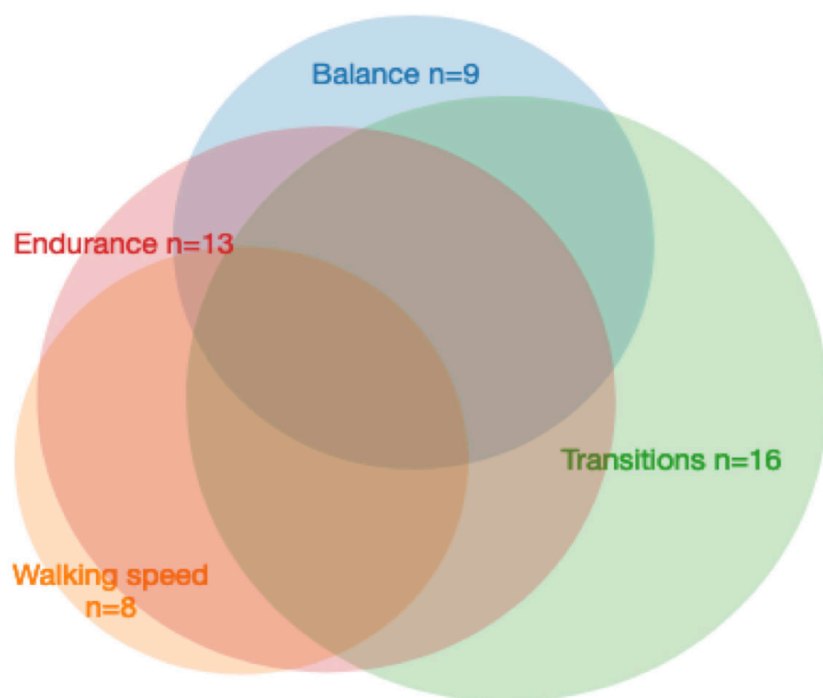


Figure 2. The Venn diagram includes data from 21 study participants who were below the 50th percentile on the age-referenced normative value for at least 1 measure (no overlap) or more than 1 (overlap) mobility category. Most participants were below average in >1 category.

most well-established predictor of future performance, which suggests its fast speed measure could be eliminated. Replacing the FGA with a brief but challenging balance measure warrants consideration because several of the measures used correlate with fall risk and the FGA takes relatively longer to administer. Gait speed, as assessed with the 10-meter walk test and the 6-minute walk test, are recognized by non-physical therapy health care professions as useful for assessing functional capacity and as prognostic tools, which supports keeping these physical performance measures as part of the Mobility Checkup.^{48,70,71}

DCEs are novel and patient-centered. A strength of the design is the ability to determine preferences in a way that reduces the likelihood of bias or misunderstandings due to subjectivity inherent in traditional surveys. The overwhelming preference of participants in this DCE was for no out-of-pocket cost for the Mobility Checkup. The cost of a service is known to be important to health care consumers.⁷² When evaluating participant preference in health care DCEs, others have found the cost attribute makes the design unbalanced.⁷³ Future DCEs should focus on other important questions related to the cost of the service to the consumer in order to balance the design and yield more information from the other attributes in the model. For example, it should be possible to determine how participants value knowing what a service costs prior to receiving the service, knowing what proportion

of the cost insurance covers, or knowing how to minimize their overall health care expenditures.⁷²

For adults over 65 years old, a Mobility Checkup could be reimbursed as part of annual wellness visits,⁷⁴ which have been reimbursed through Medicare since 2011. They include measures of mobility and fall risk; however, physical therapists have not established a standard role in the annual wellness visit. As experts in the movement system,⁷⁵ physical therapists are uniquely prepared to diagnose preclinical mobility disability and mobility disability,⁷⁶ and to guide the use of physical activity to optimize mobility as they age.¹⁸ Thus, physical therapists are the logical provider for this assessment.

In order for data collected during the Mobility Checkup to be useful in educating participants, it must be presented in an understandable way. One goal of the checkup's design was to educate participants about their scores in relation to age-referenced norms. Learning the "average" performance has been shown to be a valuable reference point in educational graphics.⁷⁷ Another goal was to compare participants' scores to their past performance, when available. Future studies should add a measure of the likelihood of change in behavior based on the education provided.

Graphics are useful tools to convey the meaning of outcomes for patient education.⁶⁶ Two graphic styles

Table 4. Discrete Choice Experiment Results

| Attribute | Level | Utility | 95% CI | FDR <i>P</i> | X ² <i>P</i> | Attribute importance ^a |
|---------------------|-----------------------------|---------|---------------|--------------|-------------------------|-----------------------------------|
| Visit duration | 30 minutes | 0.168 | 0.022, 0.318 | 0.022 | 0.022 | 0.032 |
| | 60 minutes | -0.168 | NA | | | |
| Outcomes | Ability to get up and down | -0.095 | -0.344, 0.148 | 0.022 | 0.019 | 0.047 |
| | Risk of falling | 0.293 | 0.079, 0.517 | | | |
| | Walking speed and endurance | -0.198 | NA | | | |
| Out-of-pocket cost | \$0 cost | 1.205 | 0.972, 1.462 | <0.001 | <0.001 | 0.872 |
| | \$25 cost | 0.163 | -0.041, 0.372 | | | |
| | \$129 cost | -1.369 | NA | | | |
| Educational graphic | Bar-negative | 0.239 | -0.079, 0.564 | 0.015 | 0.007 | 0.093 |
| | Bar-positive | 0.320 | 0.033, 0.619 | | | |
| | Graph-negative | -0.122 | -0.394, 0.148 | | | |
| | Graph-positive | -0.438 | NA | | | |

FDR, false discovery rate; NA, not available; X², chi-squared test.

^aThe relative importance of each attribute to the model when the stated attributes are present. The importance scores sum to 1.0 and can be interpreted as proportions.

were evaluated in the DCE. Regardless of whether the graphic portrayed their results as better than or worse than their hypothetical past performance, participants preferred a colored bar graph (Table 4). This result is similar to another study that found patients prefer simple line graphs for ease of understanding patient-reported outcomes.⁷⁸ Future studies of the Mobility Checkup will develop and evaluate the effectiveness of specific activity recommendations to reduce mobility disability.

Of the choices provided, participants indicated that education about their risk of falling was relatively more important than the other mobility categories, indicated by a utility of 0.293 and 95% CI of 0.079–0.517 (Table 4). It is possible this was their preference because falls are a well-known risk of aging. This result suggests older adults would benefit from education on the predictive value of other aspects of their physical performance and their relationship with morbidity, mortality, future health status, and ability to live independently.⁴⁸

Strengths, Limitations, and Future Research

Both phases of this study inform future research and development of the Mobility Checkup as a preventive model of physical therapy care. The participant sample in the feasibility phase was homogeneous; in particular, participants were well educated (68% with a bachelor's degree) compared to the general population (in which about one-third of people achieve this degree).⁷⁹ Recruitment of participants from a broader number and type of settings within the community for the DCE phase resulted in a sample with more balanced distribution across education level, type of residence, and assistive

device (Table 2); however, in both study phases, female participants were more represented than males. Future studies may consider blocked enrollment to ensure the sample demographics reflect the population.

It is recommended DCEs be conducted face-to-face;³³ however, it is possible this practice introduces bias. Our DCE was conducted face-to-face to allow participants to ask questions. A strength of this approach is it results in a high completion rate and allows study personnel to observe and answer questions as they arise. Study personnel's impression was that participants understood the attributes and levels based on the spontaneity of responses and the relative infrequency of questions. Participant understanding should be systematically assessed³³ in future studies in which participants complete the surveys independently after instruction. A strength of this study is that the threat of multiplicity is negligible. The feasibility criteria were largely independent, and conjoint analysis, used for the DCE, corrects statistically for the multiple tests using false discovery rate.

The proportion of eligible people who were willing to participate in the feasibility study was approximately 80%. This information will be useful in calculating a sample size for future studies. The scientific objective of a future study could be to determine whether or not the Mobility Checkup identifies preclinical or mobility disability in a representative sample of older adults. Subsequently, the likelihood participants will change their behavior and effectiveness of the Mobility Checkup could be examined.

CONCLUSIONS

This newly designed Mobility Checkup was feasible and well-received. Knowing what their physical performance measures might predict about their health, as well as knowing the cost of health care, was important to the older adults taking part in this study. Participants preferred a shorter visit duration, which would reduce the number of measures evaluated by the Mobility Checkup. However, the ability to transition — such as from sitting to standing or getting up from the floor — should continue to be included.

Patient-Friendly Recap

- Gradual decline in mobility may go unnoticed by patients and clinicians alike. Physical therapists can safely administer tests to measure performance in walking speed, rising, balancing, etc.
- Authors compiled several preestablished mobility measures to develop a Mobility Checkup for older adults (age ≥55).
- The checkup was found to be feasible to conduct in a community setting, though it frequently exceeded the goal length of 60 minutes. Still, most participants expressed high satisfaction with the education they received.
- The Mobility Checkup's most impactful evaluation was on one's ability to transition from one position (eg, sitting) to another (eg, standing).

Author Contributions

Study design: Lieberz, Borstad. Data acquisition or analysis: all authors. Manuscript drafting: Lieberz, Borstad. Critical revision: all authors.

Conflicts of Interest

None.

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